

Contract 082: Acquisition and Restoration of ICF's Texas Flagship Property

Report 6: April 2026

Our new Sanctuary Manager, Natasha Lehr, started on April 13th. During the month of April, we visited Wolfberry Whooping Crane Sanctuary to work on plant identification, collect plant samples to add to the herbarium, and to collect some initial data to help us determine which frame size was the most appropriate for collecting species richness vegetation data on site. We also finalized our vegetation data monitoring methods. See below:

At the end of the month, we started vegetation data collection. This work will continue into May. We have attached the invoice and financial documentation for this April report.

Thank you,

A handwritten signature in black ink that reads "Carter Crouch". The signature is written in a cursive, slightly slanted style.

Carter Crouch, Ph.D.
Director of Gulf Coast Programs,
International Crane Foundation

Wolfberry Whooping Crane Sanctuary Vegetation Monitoring Protocol

Point Selection

Our main objective in selecting random sampling points was to select locations that are equally distributed between the pastures (or management units) and capture the variations in habitat already present on the property. To achieve this, we first defined ecotopes on the property using spatial data from the National Wetlands Inventory (NWI) and the Web Soil Survey (WSS). We overlaid those two layers in ArcPro to generate polygons representing all possible combinations of the soil types present and wetland vs. not wetland. There were three soil types present, but two of those represented a small portion of the property and were both described as 'frequently flooded' in the WSS. We eliminated the 'not wetland' class for those two soil types since that seemed to primarily reflect slight discrepancies in the two data sources and not a true ecotope that exists on the property.

To avoid any edge effects, mowed strips, and roads within the property, we buffered the pasture boundaries and interior roads and fences by 10 meters and clipped out the areas that were treated with herbicide (Spike) in the last couple years. We then buffered the resulting ecotope polygons by an additional 50 meters. Within those buffered polygons, we generated random points, with at least one in each ecotope in each pasture and an additional point in the most abundant ecotope in each pasture for a total of 16 sampling points. We did not include points in the 5th pasture, dominated by saltmarsh, in this monitoring scheme since the vegetation is more sensitive to disturbance and will be less impacted by our management actions on the rest of the property. We will develop separate 'Saltmarsh Monitoring' protocols for that pasture.

Vegetation surveys

Vegetation surveys will be completed at all random survey points for the first two years for the inventory phase. After that, the team can reevaluate and potentially change the frequency of surveys or the number of quadrats to achieve a manageable time commitment. The surveys will be conducted during the time period when identification of forbs and grasses are both optimal; April 25 to May 31. It should be possible to complete sampling within 2-3 weeks, so when to complete sampling within that larger window depends on yearly conditions. In drier years, the vegetation may be slower to mature and it would be better to sample towards the end of the sampling window.

Following a prescribed burn, we will wait a full growing season before collecting quadrat data at sampling point within the burned area. Point-line intercept data can be collected as normal within the same sampling window. Ideally, those points will be sampled last to allow the vegetation to mature as much as possible.

Transects

Transect directions were randomly determined in January 2026 prior to the beginning of field data collection.

Point Line Intercept

Point-line intercept data will be collected at 2-meter intervals along the 50 meter transect starting at the center point. During the point line intercept data collection, all observers should stay on the left side of the transect (when looking from the starting point) to avoid trampling the right side, where we will collect the quadrat data.

At each point along the transect, the observer will record the maximum height of vegetation (defined as the tallest vegetation that intersects the point), the ground cover (bare ground, litter, plant base, or water), water depth, and the dominant plant species in three height classes; 0-0.5 meters, 0.51-1 meters, >1 meter. Dominant species in each height class is defined as the species that intersects the sample point on the transect the greatest number of times within that height class. It may help to use a marking flag or extendable ruler to visualize the number of contacts with each species.

For woody species only, we will record separately live stems and dead stems. To count as dead, the entire plant does not need to be dead, simply the branch that intersects the sample point must be dead, ie can be snapped and there is no living cambium in the twig. Since we are only recording live vs dead for woody species, there will not be a separate column for status. Instead, record the living individuals as before and add the word 'dead' for any dead individuals. For example, in a situation with both living and dead live oak dominant in different height classes, record 'QUEVIR' for the living live oak and 'QUEVIR dead' for the dead live oak. This way of collecting the data will provide us with more specific data about the efficacy of future woody plant control efforts.

Quadrats

For estimating canopy coverage and species richness, we will use 1.0 x 0.5 meter quadrats placed every 5 meters along the transect starting at the 5-meter mark. This will be 10 quadrats at each of

the 16 lines and 160 quadrats across the property. The quadrats will be placed on the right side of the transect, which we have avoided disturbing during the point-line measurements. Within each quadrat record all the plant species present and estimate the percent cover of each to the nearest 5%, except in the case of species present in very small amounts, which will be recorded as 1% cover. Any species that is present above 1% cover will be rounded up to 5%. When estimating percent cover of each plant species, include any overlap between species, meaning that the combined cover of all species could equal greater than 100%. Also estimate the percent cover of the quadrat that is covered by litter, bare ground, or open water. These cover estimates will exclude any areas that are covered by vegetation, meaning that the overall vegetation cover could be found by subtracting the percentages of the other three from 100%.

We will treat live and dead stems of woody plants the same way in the quadrats as described above in the point-line intercept sampling.

Unidentified Plants

Plants will always be easiest to identify in the field while they are fresh and you have multiple examples to examine. Make a concerted effort to identify every plant in the field, but to keep the surveys from getting bogged down, limit efforts to 15 minutes per plant. The rest of the survey group can continue while identification efforts are happening. Plants that can't be identified to species during the transect or quadrat surveys should be given a descriptive name for the datasheet (ie scented Solidago) with a description of the plant in the notes section. Take samples for the herbarium of any unknown plant for later identification in the office and be sure to label those samples with the same descriptive name on the datasheet. Collect samples for the herbarium of any new species encountered and label with the date, location, and initials of the collector.